



TALLY®

TAPE PERFORATOR

Model P-150A



FEATURES

- 150 characters per second on paper, plastic or foil tape.
- Perforates 5, 6, 7, or 8 channels.
- Asynchronous operation simplifies input and output logic.
- Flow oil system extends life of mechanism.
- Integral reel tape handling—1,000'.
- Remote backspace for error correction.
- Perforator punch pin contacts verify character perforated.

APPLICATIONS

Preparation of perforated tape from:

- Digital computers
- Digital data processing systems
- Data acquisition systems
- High speed data logging systems

The newly designed Tally Model P-150A tape perforator operates asynchronously at speeds up to 150 characters per second. Ideally suited for most high speed output applications, the new compact panel-mounted P-150A perforator features integral supply and take-up reeling with a capacity of 1,000 feet of tape.

This highly accurate and versatile unit reliably perforates paper, plastic, or foil tapes 11/16", 7/8" or 1" wide and from .0025" to .0045" thick.

Additional advantages of this outstanding tape output device include easy and fast front tape loading, accessible frame for much easier maintenance, plus a host of options to provide flexibility of de-

sign with associated circuits.

The outstanding optional feature of this sophisticated perforator is its ability to detect errors. While tape is being perforated, error control can be exercised by either bit echo or checking odd or even parity. The motion of each punch pin is mechanically sensed as a character is being punched. If an error appears, the tape advance pulse is inhibited and the erroneous character overpunched with a delete code before the tape advances.

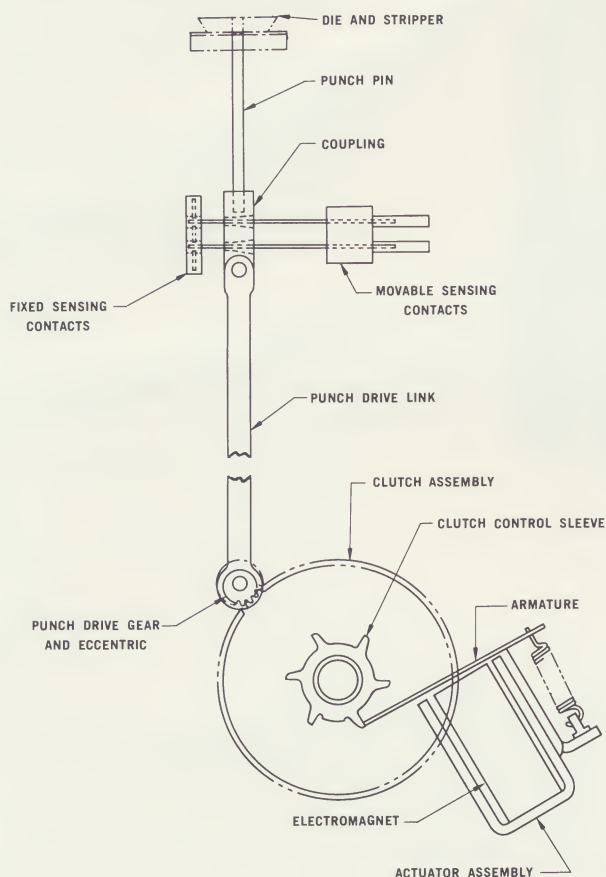
To insure long life and minimum maintenance, the perforator contains an internal oil and air cooling system utilizing a circulating pump and radiator assembly to cool and lubricate the moving parts.

A NEW APPROACH TO PERFORATING TAPE

The Tally P-150A Perforator features a number of design and manufacturing advances which contribute to a long and trouble-free life. Most significant is a new mechanism in which most of the parts are working one-third as hard as they did in previous designs.

Here's how it works; to record a character, an electric pulse is simultaneously applied to the **electromagnets** of the **actuator assemblies** controlling the **punch pins** for a given character. When the **electromagnets** are energized, the corresponding **armatures** are momentarily disengaged from the **clutch control sleeves**, permitting the **clutch assemblies** to rotate one-sixth turn. The gear on the periphery of the **clutch assembly** rotates the corresponding **eccentric** one full revolution, sending its **punch pin** through one up-and-down cycle to perforate the tape.

Before the **clutch assembly** completes the one-sixth revolution, the **armature** has been released, engaging the **clutch control sleeve** and stopping the rotation of the **clutch assembly**.



SPECIFICATIONS

Operating Speed

Variable from 0 to 150 characters per second.
Remote backspace 0 to 25 characters per second.

Standard Code Channels

5, 6, 7, or 8

Tape Supply

8" reel—1,000' capacity

Tape Take-Up

8½" reel—1,000' capacity. Other reel options available.

Code Hole Size

0.072" diameter on standard 0.1" centers.

Feed Hole Size

0.046" diameter on standard 0.1" centers.

Alignment

Code holes and feed holes have a common center line. (Advance feed hole optional).

Standard Tape Widths

0.687, 0.875, and 1.000 inches.

Input Pulse Requirements

Data Coils and sprocket coils: 48V \pm 3V,
5.4 amps peak 1.2 ± 0.1 , 20% duty cycle.
Tape Advance: 48V \pm 3V, 2.5 amps peak
 1.2 ± 0.1 , 20% duty cycle.

Drive Motor

⅛ hp, 115/230 VAC, 50/60 cps.
Average run current: 2.2 amps at 115V,
60 cps or 1.3 amps at 230V, 50 cps.

Termination

34 pin connector, mating connector supplied.

Dimensions, Standard RETMA Panel

19" W x 14" H, extends 5" to the front,
9" deep. Weight—38 lb.

OPTIONS

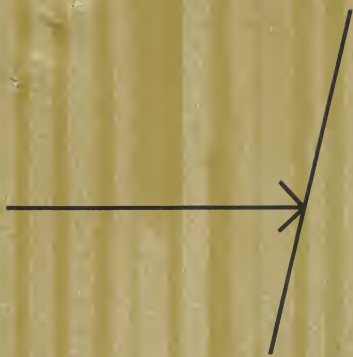
Remote Backspace.
Error Checking—Bit Echo or Parity.
Low Tape Sensor.
Five Channel Operation.
Panel Edge Milling.
Solid State Drive Package.
Tape Motion Sensor.
Painted Panels.

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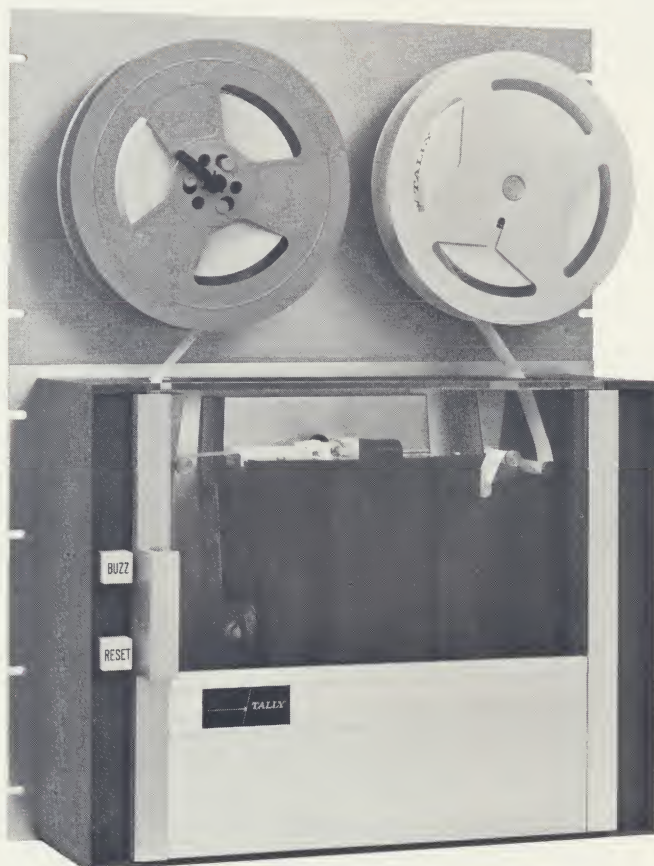
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TALLY®

TAPE PERFORATOR

Model P-150



FEATURES

- 150 characters per second
- Asynchronous operation simplifies input logic
- Remote backspace for error correction
- Perforator punch pin contacts verify parity of character perforated
- Perforates paper, paper-mylar, or mylar-foil tapes

APPLICATIONS

Preparation of perforated tape from:

- Digital computers
- Digital data processing systems
- Data acquisition systems
- High speed data logging systems

The Tally Model P-150 tape perforator is a high speed, panel mounted unit operating at speeds to 150 characters per second. Paper, foil, or mylar tapes of varying widths up to eight channels may be used. Tape supply and takeup is available on a separate panel.

The Tally high speed perforator uses a unique wire-spring clutch drive for each punch which allows complete asynchronous operation. This allows the perforator to be slaved to other equipment, thereby eliminating the design compromises required if the perforator is the controlling unit. The tape can be remotely back-

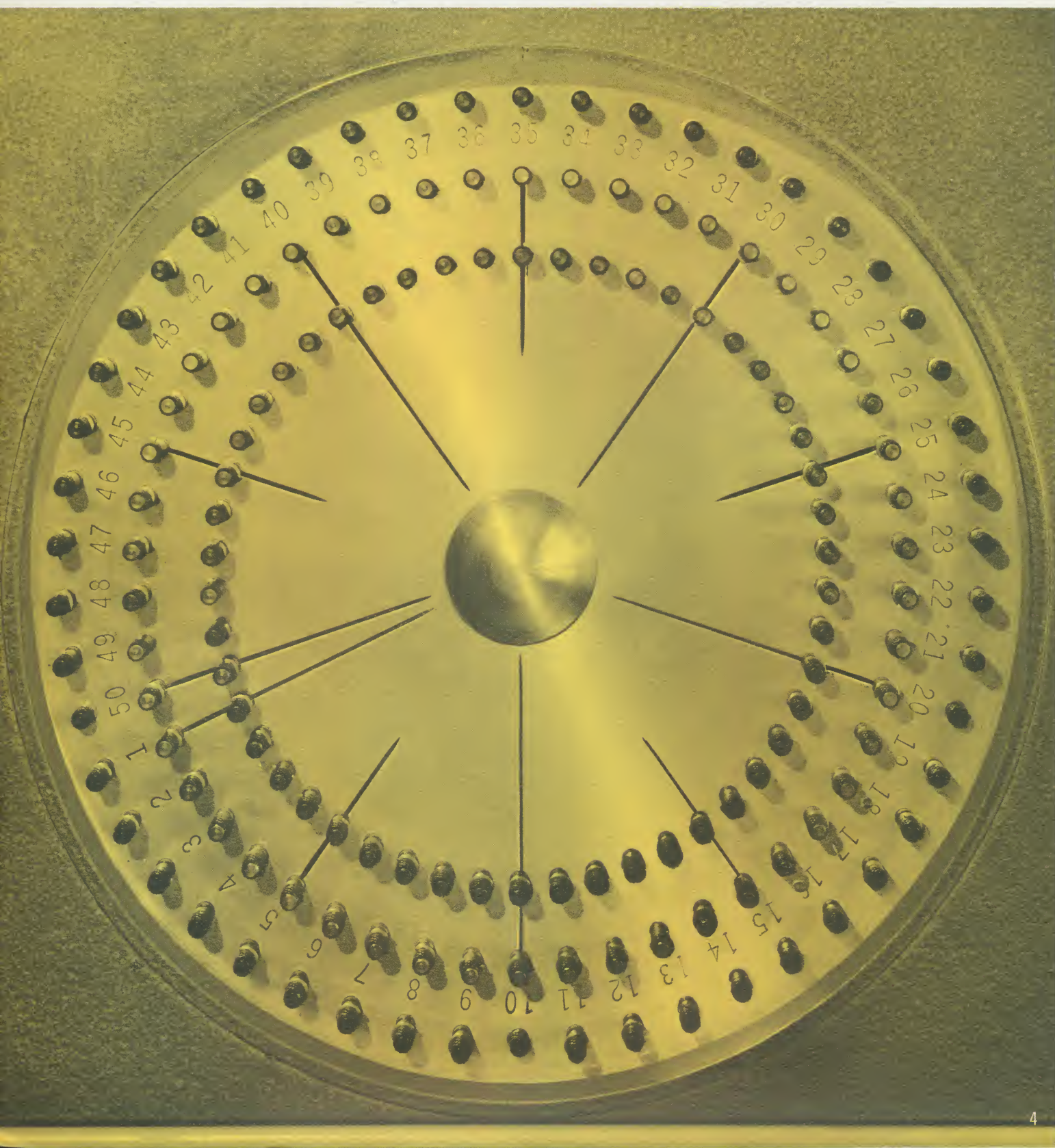
spaced allowing the user a simple error correction or modification routine.

A unique reading device is incorporated, which senses the motion of each punch pin. Either odd or even parity may be checked. Parity is checked during the punch cycle and prior to tape advance, thereby permitting the unit to stop on the character in error. No backspacing is necessary to delete or modify the incorrect character.

The high speed mechanism of the perforator is enclosed in a baffled oil case which permits quiet operation. The oil is forced through a radiator for cooling, thereby insuring long life and minimum maintenance.

featuring the exclusive, electro-mechanical **PUSH-BUTTON
PROGRAMMER**

Brain center of the Rotomatic — key to its astounding versatility and infallible performance

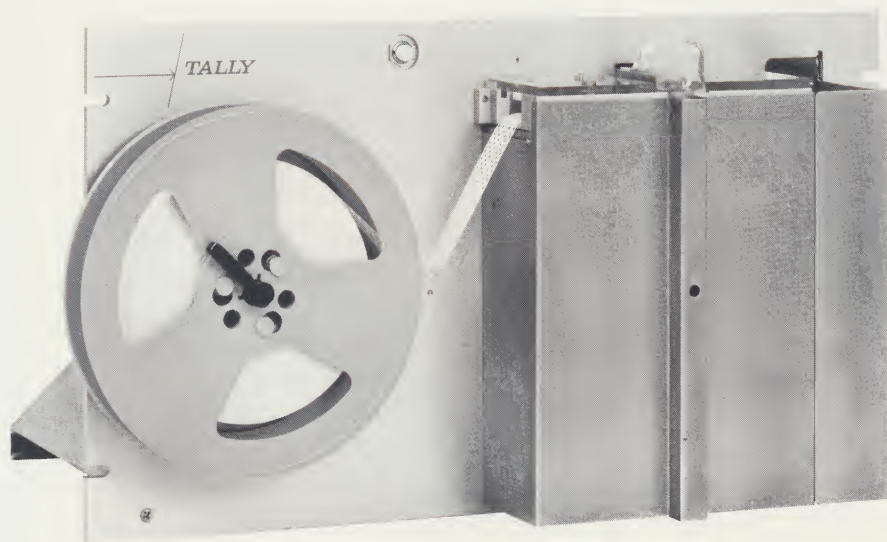




TALLY®

TAPE PERFORATOR

Model 420



FEATURES

- 60 characters per second on paper, plastic, or foil tape.
- Perforates 5, 6, 7, or 8 levels interchangeably without modification.
- Asynchronous operation simplifies input and output logic.
- Oil mist lubrication extends life of mechanism.
- Integral reel tape handling.

APPLICATIONS

Preparation of perforated tape from

- Keyboards
- Tape reproducers
- Digital Computers
- Computer output
- Digital data handling systems

The Tally Model 420 is a self-contained high speed tape perforator which operates asynchronously up to 60 characters per second. The unit is panel mounted and designed for reel tape handling for maximum tape economy. It will accept paper, foil, or Mylar tape of varying widths up to eight channels. Customers can specify 6 or 10 inch metal or 7½ inch plastic take-up reels. The 8 inch supply reel holds 1000 feet of .004" paper tape.

Asynchronous drive is provided by the utilization of unique wire clutch drives for each punch. This enables

the 420 to be slaved to other equipment rather than forcing a design compromise to slave the equipment to the perforator. A minimum interval of 16⅔ ms should be allowed between cycles for asynchronous operation.

Bidirectional tape transport allows tape to be reversed to correct or modify operation errors. Maintenance of the Model 420 is held to a minimum. The high speed mechanism of the perforator is enclosed in a baffled oil case which permits the use of an oil mist to lubricate and cool the moving parts.

OPERATION

Punching is controlled by the presence or absence of nine customer-supplied drive pulses (one for each bit level, plus one for sprocket and paper advance). Any combination of these pulses (but always including the sprocket and advance pulse) may be applied at any rate up to 60 pps. The applied pulse must be 48 v DC (or 24 v DC), 4.5 ± 0.5 milliseconds in duration. Normally a common drive pulse is applied and controlled by gating switches in associate equipment.

If individual pulses are used to drive the data channels (including sprocket and feed) at a maximum rate of 60 cps, they must occur simultaneously within ± 0.5 ms. However, if data is occurring at random and results in a greater deviation than ± 0.5 ms, the following timing logic must be used; the sprocket and feed instruction shall occur simultaneously with or after the last data instruction. The earliest data instruction for the following character shall not arrive earlier than $16\frac{2}{3}$ ms after the sprocket and feed instruction.

Where spark suppression is used to protect the pulse source, it must cause the coil current magnitude to approach zero (less than 10% of steady state) within 2 ms after opening the contacts. The following table lists suitable circuit component values.

Resistance of coil	Drive pulse	R s	C s	Induc- tance
220 ohms	48 volts	10 ohms	0.5 mfd	200 mh
50 ohms	24 volts	5 ohms	0.7 mfd	60 mh

CONTROLS

A buzz switch is provided so that customer supplied pulses are fed to the sprocket punch for leader preparation.

SPECIFICATIONS

Operating Speed

Variable from 0 to 60 characters per second

Standard Code Channels

5, 6, 7, or 8

Code Hole Size

0.072" diameter on standard 0.1" centers

Feed Hole Size

0.047" diameter

Alignment

Code holes and feed holes have a common center line*

Standard Tape Widths

0.687, 0.875 and 1.000 inches

Supply

1000 feet, reel

Take-up

6" or 10" metal, or $7\frac{1}{2}$ " Lexan reels.
NAB reeling available at extra cost.

Input Pulse Requirements

Sprocket and Paper Drive Clutches (in parallel)

48 v, 110 ohms, 4.5 ± 0.5 ms (24 v, 25 ohms)

Punch Clutches

48 v, 220 ohms, 4.5 ± 0.5 ms (24 v, 50 ohms)

Drive Motor

1/20 hp, 110 v AC, 60 cps @ 1.7 amps

Termination

34 pin connector, mating connector supplied

Dimensions

420 PR 19" w x $10\frac{1}{2}$ " h x $11\frac{1}{2}$ " d.
Weight 28 lbs., shipping weight 48 lbs.

*Six level teletypesetter alignment available at extra cost

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